

ARX SERIES

Manual de usuario
User Manual



AKIYAMA™

GO LIFE

Thank you for choosing AKIYAMA !

Thank you for purchasing this AKIYAMA ARX SERIES speakers. The loudspeaker is designed to provide you high performance .

Please take a few moments to read these instructions carefully to fully maximize the performance of the speaker. For information about AKIYAMA check out website: www.akiyamadj.com

INTRODUCTION

The ARX loudspeakers are designed for professional use. Brilliant sound at high sound pressure levels, high quality components, a reliable service, and all this to a reasonable price—these are the pretensions of the ARX SERIES.

The series consist of 8", 10", 12", 15", 2X15".

PREVENTIVE MEASURES

1. Please read this information carefully.
2. Keep all information and instructions in a safe place.
3. Please follow the instructions.
4. Please observe all warnings. Don't remove safety instructions or any other information located on the device.
5. Use the device only in the intended manner.
6. Use only stable and appropriate stands and/or mounts when the device is permanently installed.
7. Do not install the device near radiators, heat accumulators, ovens or other sources of heat. Make certain that the device is always installed so that is cooled sufficiently and cannot overheat.
8. Do not place open sources of ignition, e.g., burning candles, on the device.
9. Do not cover ventilation slots.
10. Do not operate the device in the immediate vicinity of water. Do not expose this equipment to combustible materials, liquids or gases.
11. Please make certain that dripping or splashing water cannot get inside the device. Do not put objects filled with fluids, such as vases or drinking vessels, on top of the device.
12. Make certain that objects cannot fall into the device.
13. Use the device only with accessories with which the manufacturer intends the device to be used.
14. Do not turn on the device immediately if it was exposed to strong temperature fluctuations (for example after transportation). Moisture and condensation may damage the device. Leave the device switched off until it has reached room temperature.
15. Do not open the device and do not make any changes to the device.
16. In order to prevent damage or accidents, for example, due to tripping hazards, check all connections once you have connected the device.
17. During transport, make certain that the equipment being transported cannot fall down and possibly cause personal injuries and/or property damage.
18. If your device no longer works properly, if it has been exposed to liquids or an object has fallen inside it, turn the device off immediately. This device should be repaired

only by authorized experts.

19. Use only a dry cloth to clean the device.

20. Comply with all of the disposal laws that are applicable in your country. During disposal, please separate plastic and paper/cardboard.

21. Plastic bags must be kept out of the reach of children.

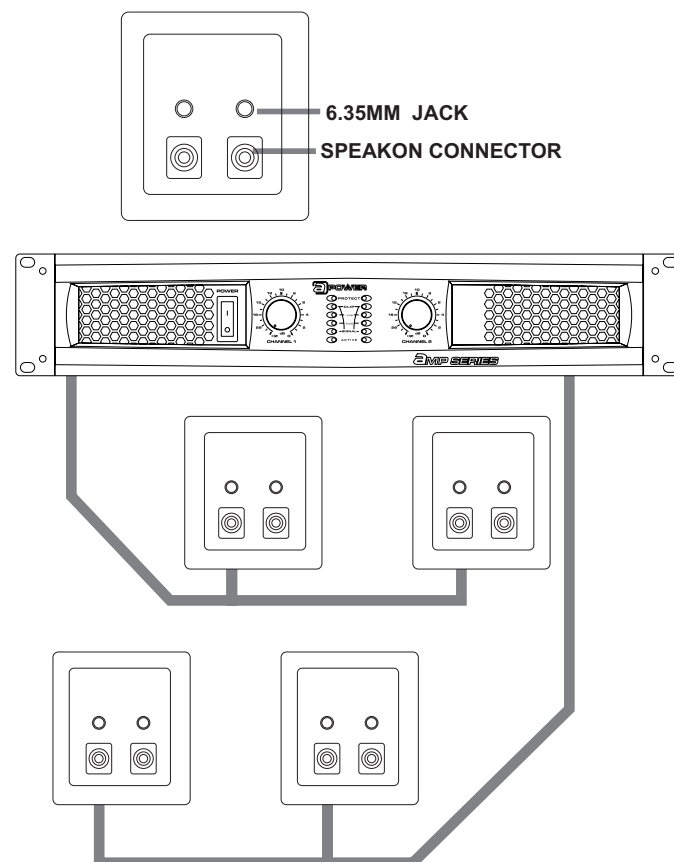
CAUTION! HIGH VOLUME!

This product is designed for professional use. Therefore the commercial use of this equipment is liable to the rules and regulations of the Accident Prevention & Insurance Association of your industry sector.

Risk of hearing damage due to prolonged exposure to excessive volumes: When using this product high sound pressure levels (SPL) can be generated, sufficient to cause permanent hearing damage to performers, production crew and audience members. Caution should be taken to avoid prolonged exposure SPL in excess of 90 dB.

CONNECTIONS

The ARX series speakers have an extremely flexible connectors. There are two Speakon jacks as well as two 6.35MM jacks. The jacks are wired in parallel, which allow you to daisy chain additional speakers. Thus you can use one amplifier channel to power multiple speakers.



CAUTION: DO NOT USE MORE THAN ONE JACK AS AMPLIFIER INPUT

15 min, Read me!

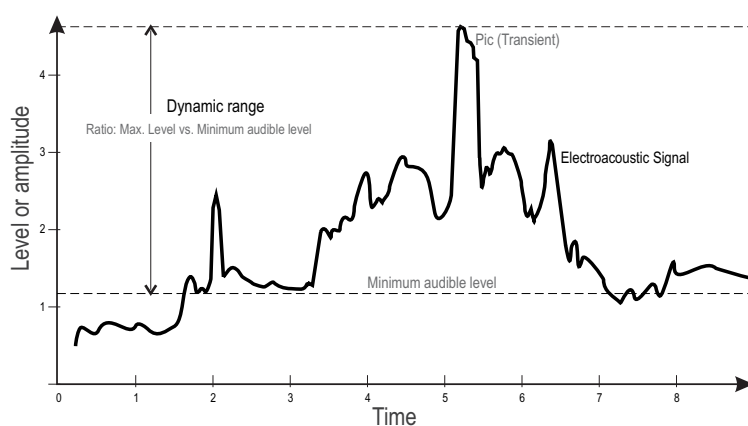
Before unwrapping and starting your loudspeakers there are a few things you should know...

Setting input levels at the mixer: Gain pot adjusts the input sensibility or so to speak the level of the input signal inside the mixer. It is paramount to set the right input level on every channel.

Why is so important setting the correct input level?

First, we have to understand the concept of Dynamic Range of an audio signal. The Dynamic Range of an audio signal is defined as the ratio between the maximum level before distortion and the minimum audible level. It is measured in decibels and gives us an idea of the amplitude of the signal.

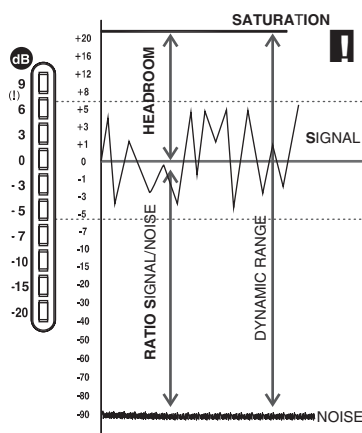
Dynamic Range



We want the audio signal to fluctuate away from the maximum level (distortion begins) and away from the minimum level (or background level), where some noise is present due to the nature of the ICs used in the electronic circuit (all ICs induce noise into the audio signal).

At the draw, we depict this "safe" level within two discontinuous lines.

We have to set the level of input signal so that the signal peaks do not reach saturation levels and the lower amplitude parts of the signal are not too near the background noise level.



We have to acknowledge that a professional audio system is a serial bounded group of professional audio devices and that saturation or other signal deterioration present in one device will appear somehow or another at the serial bounded following devices.

If we deliver saturated signal from the mixer to the power amplifier we will not be able to get rid of this saturation whatsoever. The power amplifier will amplify all what is given and if noise is given (saturation at mixer), it will be amplified. Naturally, that is bad.

Power amplifiers and loudspeakers: Current professional power amplifiers are quite reasonably protected against signal deterioration and excessive levels and shortcuts. Loudspeakers are not that well protected, hence a rule or some must be devised to use the correct speakers with a given power amplifier.

Well, that rule is not a straightforward statement but more of an understanding of the principles and nature of the audio signal. The nature of the audio signal refers to the type of music you are playing and more specifically of its Dynamic Range. The bigger the Dynamic Range the bigger the power amplifier needed. If the Dynamic Range of a given audio signal is big, the difference between the minimum level and maximum level of this audio signal will be big as well. Therefore, we will need an oversized power amplifier with enough power to amplify the maximum levels without reaching the saturation level at the power amplifier (normally, power amplifiers have red LEDs to let you know when they start saturating).

As a vague rule we can say that Rock and highly compressed music require a power amplifier delivering a power value slightly bigger than the rated maximum power of the speakers. However, we recommend the power amplifier rated power be 1.5 times bigger than the rated maximum power of the speakers. Example: if the power amplifier rated power is 200W RMS at 8Ω, the rated maximum power of the speakers should be $200 \times 1/1.5 = 133.4 \text{ W RMS at } 8\Omega$.

Using the power amplifier: Saturation and input levels.

In order to make the most of your power amplifier you must watch two things:

- 1- Set the volume controls in a way that the saturation LED lights up only occasionally (peaks).
- 2- Feed the power amplifier with an audio signal of the appropriate level. What is the appropriate level? Professional Power Amplifiers are set for an input level of 4 dBu. Do not panic, it is easy to get to it. 4 dBu is just a fixed measure of the audio signal that professional audio community uses as reference level, it can be expressed also in Volts 4dBu equals 1.23 Volt RMS. So to speak, the Power Amplifier will work at its best if fed with a signal of a level near the 4 dBu or 1.23 Volt RMS. How do we set this level? Easy, using the mixer appropriately. Incidentally, the nominal level for a professional audio mixer is also 4dBu. Therefore, if we set the master output level of the mixer carefully monitoring the output level meters (normally LED bars), we will ensure that the level of the audio signal fed to the Power Amplifier is near 4dBu because the nominal level of the mixer is 4dBu and we set correctly the output level of the mixer.

Why we should avoid saturation?

Obvious reasons aside there is a more "material" reason. Saturated signal can damage your speakers. Although some speakers have overload protection, a highly saturated signal can deliver D.C. and this phenomenon can easily shatter your speakers.

SPECIFICATIONS / ESPECIFICACIONES

	Model	ARX-108	ARX-110	ARX-112
	Type / Tipo	2-Way passive loudspeaker / 2 vías pasivo		
Woofer	Diameter / Diámetro	8"	10"	12"
	Impedance / Impedancia	8 ohm	8 ohm	8 ohm
	Coil / Bobina	1.5"	2"	2"
	Magnet / Imán	30 oz	30 oz	40 oz
Tweeter	Diameter / Diámetro	1"	1"	1.35"
	Impedance / Impedancia	8 ohm	8 ohm	8 ohm
	Diam.Material	Titanium	Titanium	Titanium
	Magnet / Imán	11 oz	11oz	13 oz
	Power Output(RMS)	150 W	180 W	250 W
	Power Output(Peak)	250 W	300W	400 W
	Frequency Response	60Hz-20Khz	55Hz- 20Khz	50Hz-20Khz
	Sensitivity	90 d B	92 d B	93 d B
	Max, SPL	110 d B	113d B	115 d B
	Impedance	8 ohm	8 ohm	8 ohm
	Connector	2xSpeakon+ 2x6.35mm jack	2xSpeakon+ 2x6.35mm jack	2xSpeakon+ 2x6.35mm jack

	Model	ARX-115	ARX-215
	Type / Tipo	2-Way passive loudspeaker / 2 vías pasivo	
Woofer	Diameter / Diámetro	15"	2X15"
	Impedance / Impedancia	8 ohm	4 ohm
	Coil / Bobina	2.5"	2.5"
	Magnet / Imán	50 oz	50 oz
Tweeter	Diameter / Diámetro	1.35"	1.75"
	Impedance / Impedancia	8 ohm	8 ohm
	Diam.Material	Titanium	Titanium
	Magnet / Imán	13 oz	23 oz
	Power Output(RMS)	350 W	500 W
	Power Output(Peak)	600 W	800W
	Frequency Response	45Hz-20Khz	45Hz- 20Khz
	Sensitivity	96 d B	98d B
	Max, SPL	120 d B	129 d B
	Impedance	8 ohm	4 ohm
	Connector	2xSpeakon+ 2x6.35mm jack	2xSpeakon+ 2x6.35mm jack



C/Praga, nº 11. Pol.Cova Solera
08191.Rubí-Barcelona (Spain)
www.akiyamadj.com
info@akiyamadj.com